DOCUMENT RESUME

ED 367 655 SP 035 103

AUTHOR Flores, Paul V.
TITLE Using Total Quality Management (TQM) To Ameliorate Motivational Levels of Ninth through Twelfth Grade Students.
PUB DATE Nov 93
NOTE 98p.; Practicum report, Nova University.
PUB TYPE Dissertations/Theses - Practicum Papers (043) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Academic Achievement; *Academic Persistence; *Attitude Change; Higher Education; High Schools; High School Students; Pretests Posttests; Secondary School Teachers; *Self Motivation; *Student Motivation; Teacher Education; *Teacher Student Relationship; *Total Quality Management

ABSTRACT

The program discussed in this paper was developed and implemented to improve student self motivation levels for a target group of 115 9th through 12th grade students who had classes with 1 of 4 participating teachers. Student self-motivation improvement activities were employed over a 12-week implementation period. Strategies developed were all based on Total Quality Management (TQM) principles of empowerment that effectively transform the nature of student/teacher interactions so that they become more positive and less punitive and coercive in nature. Levels of success were measured by administering the Arlin-Hills Attitude Survey, an empirical measure of student motivational levels, to pre- and post-test target populations. In addition, a questionnaire was developed and administered to pre- and post-intervention groups to ascertain differences in the target population's overall commitment to remaining in high school. The results indicated improved levels of student motivation for the target group when comparing their pretest and posttest. Additionally, it was concluded that students participating in this practicum project were more likely to remain in high school as a consequence of the TQM intervention. Appendices include teacher and student questionnaires, an excerpt from "The New Economics," and examples of alternative assessments. (LL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 367 655

USING TOTAL QUALITY MANAGEMENT (TQM) TO AMELIORATE MOTIVATIONAL LEVELS OF NINTH THROUGH TWELFTH GRADE STUDENTS

by

Paul V. Flores

A Practicum Report

Submitted to the Faculty of the Abraham S. Fischler Center for the Advancement of Education of Nova University in partial fulfillment of the requirements for the degree of Master of Science.

The abstract of this report may be placed in a National Database System for reference.

November/1993

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
[ ] This document has been reproduced as received from the person or organization originating it
[ ] Minor changes have been made to improve reproduction quality
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
P. Flores
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SP035103

Authorship Statement/Document Release

Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. Where it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other workers in the field and in the hope that my work, presented here, will earn similar respect.

Paul V. Flores

Paul V. Flores

Document Release

Permission is hereby given to Nova University to distribute copies of this applied research project on request from interested parties. It is my understanding that Nova University will not charge for this dissemination other than to cover the costs of duplicating, handling, and mailing of the materials.

Paul V Flores

student's signature

12/30/93

Date

Abstract

Using Total Quality Management (TQM) To Ameliorate Motivational Levels Of Ninth Through Twelfth Grade Students.

Flores, Paul V., 1993. Practicum Report, Nova University, Abraham S. Fischler Center for the Advancement of Education. Descriptors: Student Motivation/ Motivation/ Academic Aspiration/ Learning Motivation/ Student Attitudes/ Student Characteristics/ Student Interests/Self Motivation/ Achievement/ Motivation Techniques/ Performance.

This program was developed and implemented to improve student self motivation levels for a target group of 115 ninth through twelfth grade students who had classes with anyone of four participating teachers. Student self motivation improvement activities were employed over a 12-week implementation period. Strategies developed were all based on Total Quality Management (TQM) principles of empowerment that effectively transformed the nature of student and teacher interactions so that they became more positive and less punitive and coercive in nature. Levels of success were measured by administering the Arlin-Hills Attitude Survey to the pre and post test target populations. The Arlin-Hills Attitude Survey provides an empirical measure of respective student motivational levels. In addition, a researcher generated questionnaire was given to pre and post intervention groups to ascertain differences in the target populations' overall commitment to remaining in high school. The results indicated improved levels of student motivation for the target group when comparing their pretest and posttest. Additionally, It was concluded that students participating in this practicum were more likely to remain in high school as a consequence of this TQM intervention. (Appendices include the teacher questionnaire, student questionnaire, excerpt from The New Economics, and examples of alternative assessments.)

NOVA UNIVERSITY
Abraham S. Fischler Center
for the Advancement of Education

OBSERVER'S VERIFICATION FORM

Verification of Practicum Activity

Dear Observer:

Practicum students in Nova's M.S. and Ed.S. programs are asked to provide external verification that the project activities reported in their final practicum documents took place as described. You have been designated an observer to fulfill this confirmation function by the student named below. On this sheet, then, please write a note attesting to your knowledge of the project activity described in the final practicum report to which this will be attached. (Note that you are not asked to evaluate or make judgments about the quality of the project.)

Practicum Title Using Total Quality Management (TQM) To Ameliorate Motivational Levels of Ninth Through Twelfth Grade Students

Student's Name Paul V. Flores

Project Site Ft. Lauderdale Date 11/30/93

Observer's Name Judy Patterson
please print *please sign*

Observer's position C.I.S. Teacher Phone # 497-3800

Observer's comment on impact of the project (handwritten):

Table of Contents

Page

Title Page i

Authorship Statement..... ii

Abstract.....iii

Observer's Verification.....iv

Table of Contents.....v

Chapters

I. Purpose..... 1

II. Research and Solution Strategy..... 14

III. Method..... 31

IV. Results..... 47

V. Recommendations..... 54

Reference List 56

Appendices

Appendix A: Teacher/Administrator Survey 59

Appendix B: Teacher/Administrator Survey Results 60

Appendix C: Student Survey 61

Appendix D: Excerpt from The New Economics (includes: letter from W.E. Deming granting permission to include a 10 page excerpt).....63

Appendix E: Quality Evaluation Survey..... 74

Appendix F: Alternate Assessment Systems..... 79

Appendix G: Description of Student PDSA Processes.... 82

Appendix H: Teacher perceptions of the Extent of Usefulness (in %) of Selected Methods in the Development of Increased Levels of Student Self Motivation.....86

Appendix I: Student Responses (in %) Regarding Importance of Methods Teachers Use and Whether They Use These Often Enough for Students.....88

Appendix J: Comparison of Internal and External Suspension Rates.....90

Appendix K: Student Questionnaire Results.....91

CHAPTER I

Purpose

This practicum was conducted at a South Florida high school. This public high school offers instruction to students in grades 9 through 12. Historically, this target school and the community that it serves are relatively new. The school began operating 20 years ago. Total enrollment has increased in the past six years from 1,173 students to a total of 2,253.

The ethnic composition of the target school has changed over the past six years. The target school's White, non-Hispanic population percentage has dropped from 28.5 percent to 21 percent in spite of the existence of the International Baccalaureate (IB) magnet program which was created to desegregate the school voluntarily. The Black, non-Hispanic population has increased from 64.6 percent to 78.08 percent; the Hispanic population has increased from 5.3 to 10.44 percent. The Asian/Pacific Island population has increased slightly from 1.4 percent to 2.54 percent and the Indian population has increased slightly from .2 percent to .27 percent.

Students are provided an opportunity to develop talents and pursue interests in a wide array of clubs, sports teams, and other extracurricular organizations. The target school has an exemplary drama program that has received both district and state-wide recognition. Additional opportunities are provided for students to pursue their interests in music, team sports, cheerleading, foreign language clubs, service clubs, honor organizations and science/mathematics clubs.

There are 122 full time teachers employed at the target school. The teacher per pupil ratio is 1:18 reflecting a 18.18 percent decrease over the teacher per pupil ratio of six years ago which was 1:22.

The only unusual variance in age-grade distribution occurs for a number of Caribbean children who did not attend formal schooling in their home countries. These students if placed in the ninth grade may be between 15-17 years. If they are placed in the tenth grade, they will range in age between 16-17. If placed in the eleventh grade, they may be between 17 and 19, and twelfth graders are 19 and occasionally older.

The school has an overall dropout rate of 4.30 percent. White, non-Hispanic dropouts are 13.72 percent of the dropout population ; Black non-Hispanic are 80.93 percent, and an additional 5.35 percent are Hispanic. There were no Asian or Indian dropout students for the 1991-1992 school year. The 1991-1992 attendance rate was 92 percent.

The school has a dropout prevention program in which 250 students, representing 11.09 percent of the school population participated. Sophomores in need of remediation in Mathematics and Language Arts because of low scores on a nationally normed test are placed in federally funded Chapter 1 compensatory education classes. The target school's overall dropout rate of 4.30 percent is 33.03 percent higher than the district's overall dropout percentage average of 2.88 percent.

The school community is composed of the target school, two feeder public middle schools and an unknown number of non-public schools drawing students from four cities. Students enrolled in the magnet program reside in various cities throughout the county. The county in

which this target school is located encompasses an area of 1,197 square miles with a population of 1,293,517. The total nonwhite population is 13 percent. The school's community has an area of approximately 18 square miles and an estimated population of 94,605; 24 percent of which is non-White. The major sources of employment in the community are service based, government, tourism, and trade. The median income of the surrounding community is $26,500 per annum. Despite the below-average incomes in this community, property values have increased due to the lack of expansion space and the large number of retirees attracted to the area. The number of families whose children attend the target school and whose incomes are below the poverty line is 15 percent. An additional 12 percent of the student population receive free lunch and four percent purchase lunches at reduced prices.

The target school has a high withdrawal rate; 33.92 percent of its students withdrew in 1991-1992. There were 34 percent new or re-enrolled students for the same year which kept the total population stable. More than 700 students either withdraw from or enroll

in the target school each year. Many withdrawals are attributed to either the large number of families temporarily living in rental units until the purchase of a home or the shared parenting of divorced couples.

The researcher developing this practicum is a math teacher in his seventh year of teaching. This researcher is also a part-time teacher in one of the county's adult school centers. The teacher's responsibilities at the high school include teaching, advising and conferencing with parents, students, and other teachers to solve student/teacher problems.

Needs Assessment

Students in classes with anyone of four teachers participated in this practicum. This practicum sought to improve 40 percent of the target group's overall student self motivation rating by 30 percent as measured by student responses on the Psychologists and Educators Inc., Arlin-Hills Attitude Survey. This researcher and the practicum mentor who is also the principal of the target school mutually arrived at the

30 percent student motivation improvement level. This proficiency level was established because it was felt that such an improvement would provide faculty members in the target school with overwhelmingly convincing empirical evidence for eventual school-wide implementation of this practicum plan.

The intended outcomes of this practicum were improvements in levels of student self motivation with concommitant reductions in both the internal and external suspension rates of the target group. Additionally, the dropout rate was expected to show a reduction as a direct consequence of improved levels of student self motivation.

A needs assessment of the target group was conducted at this practicum's inception to ascertain the students' respective levels of self motivation. The results were as follows:

What Is: Eighty percent of the target group or 92 of the 115 students participating in the study exhibit poor self motivation as measured by the Arlin-Hills Attitude Survey.

What Should Be: Forty percent of the target group or 46 students of the 115 students participating in the study should exhibit poor self motivation as measured by the Arlin-Hills Attitude Survey.

Discrepancy: Forty percent of the target group or 46 students of the 115 students participating in the study are exhibiting poor self motivation as measured by Arlin-Hills Attitude Survey.

Need: To reduce to 40 percent or 46 students the number of participating students who exhibit poor self motivation as measured by student responses on the Arlin-Hills Attitude Survey.

Problem Statement

The following problem statement was formulated at this practicum's inception:

Poor student self motivation present at this target school manifests itself in a variety of ways. The first of these is in an excessively high absenteeism rate. This consequently results in a reduction in the quality work produced by the school. If students are absent, they cannot possibly be imbued with a sense of overall responsibility for their education, hence educational quality and productivity must consequently fail. The evidence proving that poor student self motivation, and as a consequence, student attendance are problems intrinsic to this target school takes the form of two evaluative instruments. The first was a teacher developed questionnaire (Appendix A:59) that was given to five teachers and two administrators within the target school. (Appendix B:60) is a tabulation of the survey results. They are summarized in Table 1 as follows:

Table 1

Teacher/Administrator Survey Results (N = 5)

	Strongly Agree	Agree
Excessive absenteeism leads to poor student performance	82%	18%
Excessive absenteeism lacks to poor behavior	79%	21%
Low motivational levels lead to disruptive student behavior	81%	19%
Very few intervention strategies succeed in ameliorating low student motivational levels.	45%	38%
My job would be more successful if students were more motivated	92%	8%

These survey results indicate the general consensus of opinion that excessive student absenteeism is directly attributable to poor pupil self motivation. Additionally, the teachers asserted that a marked increase in disruptive behaviors necessitating either behavior referrals or some other administrative

intervention were more frequent with students who have poor low student motivation. Additional structured observations were made by this researcher in which eighty percent of the referrals given in two separate classes over a two week period were given to students who were identified as possessing poor student self motivation.

Poor pupil self motivation also results in a higher student proclivity for dropping out from this target school. At this target school, efforts are being made to ameliorate this situation. There are 250 at-risk students, constituting 11.09 percent of the target school population enrolled in the Cities in Schools (CIS) Program. This program affords students personal and family counseling through a clinical psychologist. This program seeks to reduce the numbers of student dropouts but does not deal with the underlying, more profound problem of poor student self motivation. This practicum sought to address the causal factor of poor student self motivation that contributes to the higher student dropout rate present at this target school.

Students' poor self motivation increases the likelihood that students will rebel in the school environment. At the target school, student rebellion often manifests itself in an unacceptable way. As a consequence, the target school administration takes punitive actions against the offending student. This punitive action often takes the form of either an external or internal suspension.

A total of 10.5 percent of the target group representing 12 students have been placed in school suspension. The unduplicated count of students who were placed in external suspension was 3.44 percent, representing four students. Clearly these numbers are too high and add to the ranks of disinterested, disempowered students who have an increasingly deteriorating level of student self motivation.

Outcome Objectives

The following performance objectives were developed for use during the implementation process:

1) Within a designated period of twelve weeks, 60 percent of the target school population or 69 participants will demonstrate a 30 percent higher level of student motivation as measured by student responses on the Psychologists and Educators Inc., Arlin-Hills Attitude Survey.

2) Over an implementation period of three months, 100 percent of the target group or 115 students will show a 50 percent reduction in the school absenteeism rate so that the target population absenteeism rate will be four percent.

3) During this practicum's twelve week implementation period, 100 percent of the target population will have a maximum internal suspension rate of four percent and a maximum external suspension rate of one percent for a total suspension rate of seven percent or six students as measured by the number of teacher and administrative referrals given.

4) Within an implementation period of twelve weeks, 100 percent of the identified participants or 115 students will demonstrate a 20 percent higher commitment to remaining in high school as measured by student survey responses to teacher generated questionnaires (Appendix C:61).

CHAPTER II

Research and Solution Strategy

As students get further away from first grade, they are less likely to view education's central purpose as one that nurtures and develops their innate potential. Students typically perceive education as an organizational structure good only for ranking and categorizing. (Bongstingl, 1992). This distressing but, perhaps, accurate student perception of the theoretical rationale underlying the establishment of schools is often buttressed by the educational system's treatment of the student. By the assignment of poor grades, the system consistently and constantly reminds many young students that regardless of their efforts, they are unable to produce quality work. These same students eventually develop a poor self perception which normally culminates in reduced levels of self-motivation.

School environments in which relationships of mutual respect and trust have replaced fear, suspicion, and division; and where leadership has successfully empowered students and teachers to make continuous

improvements toward both student intellectual growth and teachers' professional development produce schools in which student motivation has increased dramatically. (Freeston, 1992).

A problem inherent in schools where a significant percentage of the student body possess low levels of self-motivation, is that the schools generally adhere to an educational paradigm that reinforces the pervasive view that there generally is only one correct answer for every question posed, and that if this answer is not agreed with, the result is abject failure.(Lynch, 1991).

The level of student self-motivation and its subsequent effect on grades, conduct and school related perceptions has been a focal point of interest among educators investigating how Total Quality Management (TQM) might be implemented to ameliorate school related problems. William Deming (1992) advocates a new educational paradigm which empowers students, parents, and administrators into making daily decisions that improve the process of student learning. TQM asserts that all individuals impacting the educational process,

from teachers and administrators to secretaries and groundskeepers must be dedicated to self-improvement and betterment. This new "process-oriented" emphasis replaces the "product-oriented" perspective which measured student success by such end product indicators as: student graduation rates, drop-out rates, and S.A.T. scores. Lewis Rhodes, associate executive director of the American Association of School Administrators defines TQM as:

> A value based, information driven management process through which the minds and talents of people at all levels are applied fully and creatively to the organization's continuous improvement. (Rhodes, 1990:23)

In the paradigm shift called for in TQM, young people will be prepared for life - long learning by realizing the importance of their contributions to the educational process. This newfound self-revelation will correspondingly result in increased levels of self - esteem accompanied by higher levels of student self - motivation. After all, a student feels more strongly about that which the student has had a hand in creating. A number of school professionals have experimented successfully with TQM (Abernathy, 1992

Freeston, 1992). They have applied TQM analysis to problems of student attendance and motivation. The results at Newton Public Schools were improved levels of student self motivation and more concern for others. Additionally, these same students became more self - directed learners. This was ascertained by the administering of post treatment surveys to the participating students. Many other successes with improved student self - motivation have occurred with the introduction of TQM techniques to school management. (See Abernathy, 1992; Fox, 1992; Hiason, 1992).

Within the last decade, much research and writing has been done to examine how different classroom environments affect student motivation. Motivation research has focused on examining goal - directed behavior. Goal - directed behavior is defined as the integration of students' cognitive and affective components of learning.

Carole Ames (1992) compared mastery and performance goal constructs. These theories describe two disparate explanations of the various ways students

perceive whether they have been successful in school related work.

The teacher who uses a mastery goal model guarantees that a focus should be placed on the quality and extent to which students are involved in the planning and implementation of the learning process. This student involvement can include both student participation in the design of curriculum and student input into what subjects are worth studying. This mastery learning perspective as a consequence facilitates student development of a sense of mastery using self - referenced standards. Inherent in this mastery goal perspective is the development of students' motivation to learn, whereby the student by actions demonstrated an increased yearning to learn because it simply feels good.

According to Ames (1992), performances goal theory is adhered to in the vast majority of secondary school classroom environments. It correlates students' ability with a sense of self - worth. In this theory, if a student can pass some normative - based standard, and perform better than a majority of other individuals,

then the student is a success. When a person adopts this performance goal construct, expenditure of effort becomes tenuous since failure in an effort would imply poor self - worth.

In considering approaches to motivation enhancement, Ames asserted that of the two contrasting achievement goal constructs, the one that enhances motivation most successfully is mastery goal theory. This researcher asserted that motivation could be enhanced by a commitment to effort based strategies resulting in the students' development of a zest and interest for the learning process. The author predicted that continued adherence to the status quo; i.e., performance based goal theory would keep public secondary education in a perpetual state of mediocrity.

Blumenfeld (1992) investigated performance goal theory and mastery goal theory. He presupposed Ames' conclusion that mastery goal theory provided the necessary theoretical shift in the classroom environment so that a student centered educational paradigm could evolve. Blumenfeld (1992) accepted the premise that this paradigm would emphasize activities

that would promote in students a desire to learn because the process of learning had become of more interest to the student. Additionally, the researcher asserted that this would correspondingly raise students' levels of self - motivation for the learning process. With the aforementioned as a starting point, this researcher went on to provide methods whereby teachers would be able to create challenging environments based on a mastery goal theoretical perspective. Blumenfeld (1992) asserted that teachers and students working together would be able to create a classroom environment that was conducive to each students' and teachers' development of fullest potential. The author asserted that teacher generated case reports then should be disseminated so that after experimentation, teachers would be able to learn what strategies successfully resulted in improved student motivation.

One of the primary purposes for education is to increase students' motivation to learn. (Cotrell, 1992). While Cotrell (1992) conceded that there is no way to guarantee this, he did assert that it is

possible to increase the likelihood that a student does become a more motivated learner. The way to accomplish this is by providing the student with a personalized education which he defines as an education that has some practical significance in the students' life. According to the author, this pragmatic education would likely occur if spirituality is taught in the classroom. The teaching of spirituality does not necessarily denote imparting to students a religious experience that brings one closer to God. It implies imparting to students the intellectual tools whereby they may be able to clarify their values and discover where their preferences lie, so that the cause of action they pursue would be responded to with passion resulting in a " positive emotional and intellectual commitment to someone or something." (Cotrell, 1992:435). He asserted that the purpose of such an experience is to have students develop a positive energy and enthusiasm to an activity or cause that has personal meaning.

Lee Morganett (1991) asserted that establishing positive and trusting relationship between students and

teachers is critically important in motivating students to learn. Additionally, the researcher hypothesized that behavior problems would concomitantly decrease as a result of the improved student/teacher relations. Morganett (1991) asserted that in addition to emphasizing the importance of developing positive student - teacher relationships in their courses, teachers needed to receive inservice that would provide specific examples of how the quality of this student teacher interaction might be improved. Particularly, the author hypothesized that if teachers remembered four facts, the quality of student/teacher relationships would collaterally improve. These are: focus on what the students think and feel, focus on how we talk with and listen to students, demonstrate by example the importance of teaching, and provide a supportive and accepting classroom environment free from coercion and fear.

Abrami and Chambers (1991) examined the relationship among prior achievement, individual outcome, team outcome and students' achievement and academic perceptions. The researchers undertook a study

of 190 students. The teachers participating in the experiment conducted a five week mathematics unit with the classes using a teams-games-tournament (TGT) strategy in which students were grouped into four member teams based on ability to score well on a test of cognitive mathematical achievement. Each team was given two copies of a worksheet that contained approximately 30 math questions. Groups worked on these tests together and were deemed successful by the degree to which they were able to score higher than other respective groups in the competition. At the end of the progress, teachers administered objective math tests on materials covered in the five week TGT program. On the day after students received their grades, the researcher administered attribution and satisfaction measures to ascertain whether self motivation had increased.

The major findings of the study were those related to the effects of team outcome. Team outcome was significantly related to both achievement and student perceptions. Members of successful teams performed better on the individually completed tests and rated

their ability and luck higher than did members of unsuccessful teams. The implications according to Chambers (1991) were that students low in prior achievement who work in successful teams could benefit academically and that such a benefit would correspondingly improve student self motivation. However, students low in prior achievement who work in unsuccessful teams would be at a disadvantage academically and would correspondingly have experienced lower levels of self - motivation for the educational process.

Mark Pomplun (1988) examined the extent to which grade retention affected in some fashion the level of self - motivation that a student exhibits and if this effect on self - motivation becomes less profound as the student advances by both age and grade level.

Students from first, second, third, fourth, seventh and eighth grades participated in the two year experiment in which these students were grouped into one of three categories. The first category consisted of students who were retained after the first year of the study. The borderline category included students

who were on the retention list in Spring of the first year but who eventually passed on to the next grade. Regular students were neither retained nor in danger of retention, and successfully were promoted.

The data collected over the two years showed significant improvements resulting in student, teacher and parent motivation levels for primary and intermediate retainees. As determined by teacher generated questionnaires, secondary retainees however reported lower motivational levels accompanied by an increased proclivity for poor subsequent academic performance. Pomplun (1988) concluded that the findings suggested that retention as an educationally effective alternative decreased in utility as grade level increased, with poor self motivational levels being exhibited in secondary students that were retained as a consequence of prior academic failure.

Abernathy and Serfass (1992) addressed attendance problems at Burlington High School in a project designed to encourage continuous improvement in education through TQM. Faculty members, administrators and parents were trained in TQM techniques of

continuous improvement by consultants from AT&T, Bellcore, PSE&G, and Xerox. Objective data was collected on tardies and absences from the high school. This data was collected by using a block diagram. This is a statistical control tool used in TQM analysis to accurately model the various components that constitute the particular process that is being analyzed. The block diagram analysis ascertained that the tardy and absence policy at Burlington incorporated three components. These components were student actions, school actions, and teacher actions.

Pareto charts were then produced to provide a graphical representation of the actual percentages of students who were recorded present, absent, or tardy over the time period for which this experiment occurred. Once statistics were quantified and identified as accurate, an analysis was undertaken designed to arrive at the root causes for non - attendance. This type of analysis used an ishikiwa diagram which facilitated the synthesizing down of causes for non - attendance until the four root causes were identified. They were: students were not

challenged enough by the curriculum, parents lacked proper education and motivation, teachers lacked sufficient understanding of the students, and data systems, policies, and procedures were not aligned guaranteeing optimization of the system. After this, counter measures were formulated for the four root causes for non - attendance. The statistical control tool used was a matrix which both listed and evaluated the effectiveness of solutions designed to ameliorate each of the four root causes for non - attendance. The author concluded this article by describing steps that would be taken at a later date to ascertain the degree to which the TQM implementation had been successful. The author provided one admonition. He asserted that TQM as a process was not a program to be undertaken lightly or with the preconceived notion that it would quickly solve all problems plaguing a school district. He urged the reader to understand that TQM provides a modus operandi for evaluation of the status quo, identification of processes that need improvement, potential methods that might improve the process, and

an evaluative method for ascertaining the likely success or failure of a particular method.

William Deming (1992) and Patricia Abernathy (1992) have both contended that a paradigm shift needs to occur where students, teachers, administrators, and parents are viewed as all contributing to continuous improvement within the educational milieu. This continuous improvement needs to make the processes currently occurring in public schools work better so that a collateral empowering of individuals may occur. Ames (1992), Blumenfeld (1992), Weaver (1992) and Morganett (1991) all asserted that increased levels of student motivation would occur when teachers and students develop positive relationships and that this would consequently stimulate students' zest for the learning process. Abrami and Chambers (1991), and Pomplun (1988) provided research supporting the contention that students who perform poorly were consequently likely to have lower levels of self - motivation. Their conclusion supported the position that it was necessary to get students producing

successful work so that concomitant improvements in self - motivation would result.

This researcher adopted a model similar to that of Abernathy (1992) which will use total quality management to improve levels of student motivation. This model will be used in the implementation of this practicum because the problem of low student motivation is analogous to the problem of poor student attendance. Both problems are endemic in education and lend themselves to objective quantifiable analysis using statistical control tools. Additionally, this researcher incorporated aspects of the research done by Morganett (1991) concerning the high correlation between positive student - teacher relationships and higher levels of student self - esteem. Specifically, TQM analysis was undertaken during the implementation of this practicum to improve the nature of interaction between teachers and students; two groups which faced a severe shift from a traditional relationship to one that empowered both groups to work effectively as empowered educational teams dedicated to continuous quality improvement. This researcher viewed this mutual

commitment to continuous quality improvement as a necessary prerequisite for any significant systemic change in the target school's educational modus operandi.

CHAPTER III

Method

The 115 students who had classes with anyone of four teachers, including this researcher were selected to participate in this practicum implementation. These students were chosen because their teachers indicated an interest in exploring a systematic experiment in which TQM would be used to effect an increase in student levels of self motivation. Students met with at least one teacher for 55 minutes, five days each week for 12 weeks.

Training sessions were organized for the three other teachers participating in the implementation of this practicum. At these sessions, the teachers were trained in the 13 traditional statistical analysis tools of TQM. (Bonstingl, 1992). This training facilitated the transformation of the classroom environments present in the target classes. This researcher and his mentor were responsible for the training which occurred. The purpose of this training was to equip participating teachers with the ability to better understand, collect and analyze data pertaining to student ideas and perceptions concerning the degree

to which students believed that quality instruction and learning were taking place in their respective classrooms. TQM presupposes a commitment to continuous improvement and re-evaluation of process effectiveness; therefore, teacher use of these 13 statistical tools became commonplace throughout the 12 week implementation period.

Instruction in the uses of the 13 TQM statistical tools occurred during the summer of 1993. The 13 TQM tools that were taught to the other participants were: the flow chart, the Ishikiwa diagram, the Pareto chart, the scatter diagram, the PDSA cycle, the histogram, the control chart, the affinity diagram, the force field, the five whys, the cross-impact matrix, the decision wheel, and the checksheet. (Bonstingl, 1992).

During the summer training session, this researcher chose the problem of poor school attendance, and illustrated how as a process, it could be understood with each of the described statistical tools. August implementation became greatly facilitated when the teachers who implemented this TQM practicum

became well-versed in TQM from both philosophical and practical perspectives.

An additional TQM training opportunity became available to this practicum intern at the beginning of the 1993-1994 academic year. This researcher's practicum mentor, Dr. Thomas Geismar sent this writer to a four day intensive seminar taught by W.E. Deming. As a component of this seminar, Deming discussed some of the fundamental issues concerning TQM implementation in public schools. Specifically, Deming addressed the present problem of low student motivation. He asserted that this problem is a direct manifestation of inadequacies in the present public education system. Deming contended that without adherence to four fundamental tenets, no single action would effectively ameliorate the quality of public school education.

The Four Tenets

The following section provides a description of Deming's four tenets for successful implementation of TQM in public schools:

The first tenet to be adhered to requires the abolition of grades as they are known today. Deming asserts:

> When graded, pupils put emphasis on the grade, not on learning. Cooperation on a project in school may be considered cheating ... the greatest evil from grades is ranking - only 20 percent of the pupils may receive an "A." Ridiculous - there is no shortage of good pupils. (Deming, 1993:148)

The second contention is that merit rating for teachers needs to be abolished. Additionally, comparisons of schools on the basis of scores needs to be abolished, as does gold stars for athletics. Deming asserts that adherence to the aforementioned principles would succeed in imbuing teacher, students and administrators with a "win-win" philosophy. This new approach would succeed in removing all vestiges of competition among individuals who so often have strived for individual victory at the risk of mass failure. This new cooperatively based educational milieu would allow all participants in the system, "to work as part of a team to develop ability to listen to other peoples' ideas and recognize their skills." (Deming, 1993:152). Deming asserts that this would likely facilitate the production of better work by bringing

different ideas and talents together in a joyful and highly productive learning environment. If this method of cooperation as opposed to competition were adopted, the result could only be success for everyone involved. (Appendix D: 63) is an excerpt from The New Economics. This excerpt provides a more complete presentation of Deming's view of education.

At the inception of implementation, the aforementioned reaffirmed this researcher's strongly held conviction that adoption of a TQM philosophical mindset would do much to substantially augment student motivational levels.

Self motivation builds slowly over time. Students were exposed to continuous improvement activities throughout the entire 12 week implementation period. These activities allowed students to understand that they had become empowered to actively participate in daily decision making processes that impact their educational lives. They realized that this participation had become more collaborative with teachers who students began now to view as educational team members rather than coercive, dogmatic

instructors. This newfound collaborative effort between teachers and students manifested itself in myriad ways. One way was that students had input into the instructional methods that proved the most beneficial to them. They were empowered to a lesser degree to decide what aspects of the curriculum should receive increased emphasis, and what aspects should receive decreased emphasis. Additionally, students became stimulated academically as they realized that the participating teachers were no longer requiring the memorization of "nonsense" information. This researcher adopted William Glasser's (1992) definition, as that information which is memorized only for tests, with no corresponding pragmatic value in the child's life.

The teachers and target student population became colleagues in the educational environment existing in each of the participating teachers' classrooms. As a result of this improved student/teacher relationship, student self motivation improved. The evidence for this is presented in chapter IV.

Week one was the initial portion of the practicum plan. During the first week, all of the students participating in this practicum were given the Arlin-Hills Attitude Survey to ascertain their school motivational levels. Participating students took a teacher generated survey designed to assess their respective levels of commitment to remaining in high school. Students began to be indoctrinated into a TQM mindset where they started to view their relationship with their teacher as more collaborative and less coercive.

The second week was devoted to imbuing the target population with a sense of overall responsibility for the work that they produced. Particularly, students were taught through a constant and consistent indoctrination process that quality work was expected of them, and that instructors would be willing to take whatever steps were necessary to remediate students. This remediation occurred at no penalty to their grade. Students were further exposed to William Glasser's ideas concerning mastery learning. Students were informed that classwork could be turned in late at no

penalty if they needed additional time to master specific course objectives. Additionally, students participated in developing testing procedures that were adhered to for the entire implementation period of the practicum. The objectives of these activities were to encourage students to feel empowered in the classroom; perhaps for the first time in their educational careers. Additionally, the process whereby students participated in developing a mutually acceptable testing procedure reminded them of their integral importance in deciding questions concerning curriculum related issues.

The third week consisted of activities that exposed students to "quality education surveys." These are forms that afforded students an opportunity to give their teachers feedback on their relative degree of teaching effectiveness. Students filled out the quality education survey at least once a week. (Appendix E:74) includes a collection of five randomly selected quality evaluation surveys filled out by students during the implementation period. Students filled out as many quality evaluation surveys as they

deemed necessary. The purpose was to demonstrate to students that they are consumers of education who deserve a quality product in the form of interesting and exhilarating classes. Additionally, the evaluation of instructors provided a framework whereby the participating teachers were able to strive for continuous quality improvements in their instructional abilities.

Week four's activities provided students with opportunities to impact the curriculum they were following in two fundamental ways. First, both they and the instructor decided what aspects of the curriculum that was to be taught the following week was of no personal pragmatic significance. This was done by both teachers and students arriving at a consensus opinion. Portions of the curriculum that were deemed of no pragmatic use to the target population were excluded for the time for which this practicum was being implemented. Inclusion of omitted portions of the curriculum occurred after practicum implementation. The purpose of this activity was to facilitate students' understanding of the important role that they had in

deciding what topics were worthy of study. This activity aligned nicely with the TQM notion of "empowerment through responsibility". This empowerment in making curriculum related decisions allowed them to ultimately assume ownership of their own education.

Week five activities exposed students to the Deming Cycle (PDSA). The Deming Cycle is cyclical and provides a four step process that begins with a process improvement plan. Step two is where the improvement plan is implemented. The third stage is where the plan is studied to make sure that desired results are being achieved. Finally, lessons learned in the third stage are used to improve the process being examined. The purpose for the target population's exposure to the PDSA cycle was so that they would be able to ensure increasingly higher quality work and increased optimization for work that they were attempting.

Students were provided an opportunity to use PDSA analysis to examine processes with personal significance. Among the processes that students analyzed were: test taking phobia, aversion to class participation, and even negative inter-personal

communications with both peers and faculty. This was done to facilitate students' realizations that they could analyze and consequently improve the level of effectiveness present in the myriad processes that they undergo in their daily lives. This augmented their levels of self motivation for the educational process in which they were engaged.

A fundamental premise for TQM implementation in schools is that the traditional assessment system does not lend itself to providing the necessary impetus for the students' achieving of continuous quality improvements in the classroom. With the aforementioned as a basis, week six consisted of student and teacher educational teams developing alternatives to the traditional methods of assessment used at this target school. These alternatives were a function of the unique student populations found in each of the participating teachers' different classes. These newly arrived at assessment approaches were as unique as the personal characteristics of the target population. Students and teachers used an Ishikiwa diagram to ascertain the root causes for perceived ineffectiveness

in the largely unpopular assessment system used at this target school. Based on this analysis, appropriate modifications were made for the design and immediate implementation of a new assessment system. The instructor exposed students to William Glasser's (1992) concept of mastery learning as well as introduced the concept of portfolio grading. However, it needs to be emphasized that instructors did not approach this in a dogmatic fashion as though they knew what assessment approach would provide the most acceptable alternative to students. Rather, teachers' roles were primarily that of facilitators who provided expert guidance while the students waded through the disparate assessment possibilities until an assessment procedure was chosen that was mutually acceptable to both students and teachers. (Appendix F:79) is a description of the assessment systems that were developed in each of the four classes that implemented this practicum plan. These descriptions were written by each of the participating teachers.

This activity allowed students to realize the degree to which they had been empowered in the

educational process. In their minds, nothing was so sacrosanct and consequently as deeply entrenched in the status quo as the grading system. A modification of the traditional grading system facilitated acceptance of their newfound role as educational partner with the instructor.

Week seven activities focused on each student's development of an action plan where the student charted intended progress in one process. Examples of processes charted included: arriving to class on time, communicating more effectively with peers, and communicating more effectively with parents. The most significant aspect to the development of this plan was that it have personal relevance in the student's personal or educational life. The plan created by each member of the target group was short term enough to be implemented during the final six weeks of the practicum implementation period. This plan required that the student develop a checksheet that would list activities and actions that the student intended to undertake in order that the plan be carried out completely, with the desired results ensuing. The results depended on what

consequence were sought by the student. These activities were unique to each student participating in the implementation of the practicum. The purpose for this activity was to provide students with a relevant scenario requiring that they make use of the checksheet which is one of the most simple, yet powerful TQM statistical control tools available. Its power to impact plans positively, lay in that it provides a method useful in spotting omissions which could be detrimental to the success of the process which was being sought to improve. (Appendix G:82) includes descriptions of the PDSA proposals developed during the implementation of this practicum.

Week eight had students engaging in the types of activities that they had been engaging in since week two. Precisely, students continued to: engage in mastery learning, fill out quality education surveys, contribute to the development and implementation of curriculum, undertake PDSA analysis, adhere to the newly developed assessment system, and develop and implement the action plan for continuous improvement. The purpose for this continued adherence to these total

quality activities was to allow the students to continue to reap the benefits which ensue from a commitment to continuous quality improvement. Students also learned to view the continuous quality improvements in the processes which had been considered thus far, as all individually contributing to the overall improvement of the entire educational system.

Week nine, ten, and eleven activities included students continuing the activities of the previous weeks. What was emphasized is that the process of continuous quality improvement requires action and reaction to the status quo present in the individual classroom environments. From the ninth week on, students were exposed to TQM at a sophisticated enough level so that they would be amenable to continued TQM implementation for the following four weeks of this practicum. What each class did from this point on is largely a function of the student, teacher and particular processes that was being sought to improve.

Week 12 activities required students to retake the Arlin Hills attitude survey to measure their respective changes in levels of student motivation. Additionally,

students retook the survey that was administered to them in week one of the implementation plan. This was done to measure any changes in students' perceptions concerning the likelihood of dropping out of school.

This researcher realizes that TQM implementation in four different classes with 115 different students constituted something different to all of the participants involved. Notwithstanding the aforementioned, what was emphasized in the implementation of this practicum is that this researcher sought to empower both participating students and teachers, with knowledge necessary to improve the quality of the myriad processes in which both groups were daily engaged. The emphasis was placed on continuous re-evaluation of what was being done with an eye toward not only getting better at what one was doing, but effectively augmenting the quality of the actions that were being undertaken. This perspective provided the reference point from which this researcher approached this practicum.

CHAPTER IV

Results

The Arlin-Hills Attitude Survey was used as an instrument for measuring student motivational levels. The survey corresponds with the definition of student motivation, which is the degree to which a student is stimulated and excited by the educational atmosphere present at the school. The survey includes items related to factors which contribute to high levels of student motivation such as: student actions in the classroom, teacher actions in the classroom, degree to which individual attention is given to students, and the degree to which students are permitted to work at their own pace. The Arlin-Hills Survey is a 60 item questionnaire. It was used as both a pre and post test.

Reliability for the Arlin-Hills attitude Survey was estimated from internal consistency measures. The eight odd items were correlated with the seven even items to obtain a total test reliability coefficient of .95.

The Arlin-Hills has face validity, content validity and convergent validity. Convergent validity

was suggested by the size of the correlations between even and odd numbered items.

Students were given a questionnaire designed to measure the level of their commitment to remaining in high school. The student questionnaire (Appendix C:61) investigates the degree to which specific teacher actions succeed in exciting and motivating students to learn. Additionally, the questionnaire examines the various opinions students have about the school, their various classes, and particularly, the individuals with whom they make daily contact. Included in this list of individuals are teachers, peers, administrators, and parents. This questionnaire was given to students before and after the 12 week practicum implementation process.

Logs were maintained of the weekly sessions. The purpose of the practicum was explained to the target population at the inception of the experiment. Students were then asked if they wanted to participate in the sessions.

The Arlin-Hills Attitude Survey was difficult to administer to one of the classes participating in

practicum implementation. The students in this class could not fully comprehend the qualities asked. The participating teacher worked individually with the students until they were able to understand and answer all of the survey items. It took two full days and a total of two hours to test the students instead of the one hour originally planned for the testing. This was a very playful group so the rules for practicum implementation had to be discussed immediately after testing.

After the surveys and student questionnaires were completed, all the other class sessions were very positive. The students in all classes became eager to participate in the activities designed to empower. The teachers implemented the TQM interventions throughout the twelve weeks of practicum implementation. The students were able to relate to the teachers positively and discuss problems that they were having with both academic and non academic facets of their lives. The teachers had a better understanding of the students' needs and expectations as a result of activities designed to mutually empower both groups.

The twelve week implementation plan was evaluated by the four participating teachers. All of the teachers chose the following activities as being of very great use in improving levels of student self motivation (Appendix H:86):

1. Create alternative assessment systems.
2. Develop and alter the prescribed curriculum.
3. Adopt a mastery learning model.

Seventy five percent of the teachers chose the following activities as being of very great use in the ameliorating of levels of student self motivation (Appendix H:86):

1. Encourage feedback in the form of quality education surveys.
2. Help students understand and use PDSA to improve a process of personal significance.
3. Facilitate students' development of an action plan.

Fifty percent of the teachers chose the following activities as being of very great use in development of higher levels of student self motivation (Appendix H:86):

1. Encourage students to continue making curriculum related decisions in weeks eight through twelve of the implementation process.
2. Encourage students to continue filling out quality education surveys and undergo PDSA analysis in the final four weeks of practicum implementation.

The two teachers who viewed the aforementioned activities as not contributing to higher levels of student self motivation agreed that students were unable to appreciate continued adherence to a TQM philosophy. Students' long standing and deeply entrenched perceptions about the nature of activities traditionally typifying teacher and student relations was proposed as a reason to explain their reluctance to continue activities of weeks eight through twelve of practicum implementation. These two teachers thought that if these same students were exposed to empowerment activities earlier in their lives, then they would have been amenable to the activities of weeks eight through twelve of the practicum's implementation.

Students felt the most important activities teachers used were (Appendix I:88):

1. Teachers allow students to help make decisions about curricular decisions.
2. Teachers allow students to submit work in late without a grade penalty.
3. Teachers listen to students.
4. Teachers are nice to students.
5. Teachers take time to explain the importance of their contributing to the entire educational process.

The results of the evaluation indicated that the practicum was beneficial. 84 students demonstrated a 33 percent higher level of student motivation as measured by student responses on the Psychologists and Educators Inc., Arlin-Hills Attitude Survey. Comparison of pre test and post-test results showed an increase in students' self motivation rating from an average of 23.4 out of 45 to 31.1 out of 45.

A fifty percent reduction in absenteeism rate occurred for all the students participating in the

practicum's implementation. This was measured by comparing pre and post intervention attendance rates.

The referral rate for disciplinary behavior of all the students was reduced by a total of 73.6 percent. The internal suspension rate was reduced to four percent or five students and the external suspension rate to one percent or one student (Appendix J:90). The results are better than the outcome objectives sought at the inception of implementation.

All of the students participating demonstrated a fifty one percent higher commitment to remaining in high school as measured by student survey responses to teacher generated questionnaires (Appendix K:91). As a result of practicum implementation, the students gained a more positive attitude toward teachers and school. In addition, their self motivation was greatly improved.

Although the objectives were achieved and in some cases exceeded, a larger period of self motivation improvement activities would benefit the students even more.

CHAPTER V

Recommendations

Upon successful completion of the practicum, three areas were addressed in conjunction with expansion of the benefits:

1. As a result of this practicum, this researcher was appointed to the District Continuous Quality Improvement Training Steering Committee (DCQITSC). The favorable results obtained during practicum implementation were disseminated to all DCQITSC members as a successful example of TQM school related intervention strategies.

2. The results obtained during practicum implementation were shared with the target school's School Improvement Team (SIT). As a result, the SIT expressed an interest in school wide implementation during the 1994-1995 academic school year.

3. A middle school exhibited an interest in

school wide implementation of the results obtained from the practicum plan during the 1994-1995 academic year. Communication is on going between this researcher and the principal of the interested school.

It has been proven that results obtained from the practicum, Using Total Quality Management (TQM) To Ameliorate Motivational Levels of Ninth Through Twelfth Grade Students, have been extremely valuable to the researcher, students, teachers, and administration. It is hoped that the favorable outcomes generated by this practicum will be equally beneficial for those educators who wish to avail themselves of the research results contained herein.

Reference List

Abernethy, Patricia E., and Richard W. Serfass. " One District's Quality Improvement Story." Educational Leadership, November 1992, pp. 14-17.

Abrami, Phillip C., and Bette Chambers. "The Relationship Between Student Team and Learning Outcomes and Achievement, Causal Attributes, and Affect." Journal of Educational Psychology, Vol. 83, No. 1, 1991, pp. 140-146.

Ames, Carole. "Classrooms: Goals, Structures, and Student Motivation." Journal of Educational Psychology, Vol. 84, No. 3, 1992, pp. 261-269.

Blumenfeld, Phyllis C. "Classroom Learning and Motivation: Clarifying and Expanding Goal Theory." Journal of Educational Psychology, Vol. 84, No. 3, 1992, pp. 272-279.

Bonstingl, John Jay. Schools of Quality. Alexandria, VA.: ASCD, 1992.

Cotrell, Howard W., and Richard Weaver. "A Non-Religious Spirituality That Causes Students to Clarify Their Values and to Respond with Passion." Education, Vol. 112, No. 3, 1992, pp. 426-435.

Craven, Rhonda G., H. Marsh, and R. Debus. "Effects of Internally Focused Feedback and Attributional Feedback on Enhancement of Academic Self-Concept." Journal of Educational Psychology, Vol. 83, No. 1, 1991, pp. 17-27.

Deming, W. Edwards. Out of the Crisis. Cambridge, Mass.: M.I.T. CAES, 1993.

Deming, W. Edwards. The New Economics For Industry, Government, Education. Cambridge, Mass.: M.I.T. CAES, 1993.

Deming, W. Edwards. August 31-September 3, 1993. Seminar.

Freeston, Kenneth R. "Getting Started with TQM." Educational Leadership, November 1992, pp. 10-13.

Glasser, William. "The Quality School Curriculum." Phi Delta Kappan, May 1992, pp.690-694.

Harris, Melanie Fox, and R. Carl Harris. "Glasser Comes to a Rural School." Educational Leadership, November 1992, pp. 18-21.

Lynch, R.F. "Shedding the Shackles of George Patton, Henry Ford, and First-Grade Teachers." Quality Progress, April 1991, pp. 64-68.

Morganett, Lee. "Good Teacher - Student Relationships: A Key Element in Classroom Motivation and Management." Education, Vol. 112, No. 2, 1992, pp. 260-264.

Pomplun, Mark. "Retention: The Earlier, the Better." Journal of Educational Research, Vol. 81, No. 5, 1988, pp. 281-286.

Rhodes, L.A. "Why Quality is Within Our Grasp ... If We Reach." The School Administrator, November 1990, pp. 31-35.

APPENDIX A

Teacher/Administrator Survey

Using the scale below, please indicate your reaction to each of the following:

1) Students who are often absent tend to perform poorly in classwork.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

2) Students who do poorly as a consequence of excessive absenteeism often exhibit behavior associated with low student motivational levels.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

3) Students who have low motivational levels are often disruptive so that either a referral or some other administrative intervention is needed.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

4) Very few effective intervention strategies are available at this target school to deal effectively with amelioration of low student motivational levels.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

5) My job would be much easier and consequently, I feel more successful if students were more motivated to learn.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

APPENDIX B

Teacher/Administrator Survey Results

Using the scale below, please indicate your reaction to each of the following:

1) Students who are often absent tend to perform poorly in classwork.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
(82 %)	(18 %)			

2) Students who do poorly as a consequence of excessive absenteeism often exhibit behavior associated with low student motivational levels.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
(79 %)	(21 %)			

3) Students who have low motivational levels are often disruptive so that either a referral or some other administrative intervention is needed.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
(81 %)	(19 %)			

4) Very few effective intervention strategies are available at this target school to deal effectively with amelioration of low student motivational levels.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
(45 %)	(38 %)	(5 %)		(12 %)

5) My job would be much easier and consequently, I feel more successful if students were more motivated to learn.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
(92 %)	(8 %)			

APPENDIX C

High School Student Survey

Using the scale below, please indicate your reaction to each of the following:

1) I feel better when I get good grades.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

2) School allows me to learn new skills and develop my interests.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

3) When I am absent for more than a few days, I ask the teacher for the assignments that I missed.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

4) I feel as though I fit in this school.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

5) It is important to me to pass all of my classes.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

6) It is important to me to graduate on time with my class.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

7) It is a big deal to me when I get placed on internal or external suspension.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

8) I enjoy school and look forward to coming everyday.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

9) I need a high school diploma in order to accomplish my lifetime goals.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

10) My teachers make me feel welcomed at this school.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

W. EDWARDS DEMING, PH.D.
CONSULTANT IN STATISTICAL STUDIES

WASHINGTON 20016
4924 BUTTERWORTH PLACE

TEL. (202) 363-8552
FAX (202) 363.3501

22 May 1993

Dear Mr. Flores,

You have my permission to quote about 10 pages from my book THE NEW ECONOMICS (MIT, CAES, 1993). My seminar book Quality, Productivity and Competitive Position is superseded by my book THE NEW ECONOMICS, just published by MIT. Phone number (617) 253.7444.

W. Edwards Deming

To Mr. Paul V. Flores
School Board
Broward County
Florida

Ch. 6 MANAGEMENT OF PEOPLE

A remark on education. There is deep concern in the United States today about education. No notable improvement will come until our schools:

- Abolish grades (A, B, C, D) in school, from toddlers on up through the university. When graded, pupils put emphasis on the grade, not on learning. Cooperation on a project in school may be considered cheating (W. W. Scherkenbach, *The Deming Route*, p. 128). The greatest evil from grades is forced ranking—only (e.g.) 20 per cent of pupils may receive A. Ridiculous. There is no shortage of good pupils.
- Abolish merit ratings for teachers.
- Abolish comparison of schools on the basis of scores.
- Abolish gold stars for athletics or for best costume.

Indeed, if our future lies in specialty products and services, as mass production moves to automation and to other countries, then improvement of education in this country is even more vital than hitherto supposed. We must from now on live by services that bring money into the country, and by high-value, high-profit machines and apparatus.

Our schools must preserve and nurture the yearning for learning that everyone is born with (see p. 124).

Joy in learning comes not so much from what is learned, but from learning.

* Deming, W. Edwards. The New Economics For Industry, Government, Education. Cambridge, Mass.: M.I.T. CAES, 1993.

Joy on the job comes not so much from the result, the product, but from contribution to optimization of the system in which everybody wins.

Against grading in school. A grade is only somebody's (e.g., teacher's) assessment of a pupil's achievement on some arbitrary scale. Does the scale make any sense? Will high achievement on this scale predict future performance of the pupil in business, government, education, or as a teacher? Some other scale might be a better predictor. Some other pupil, low on the prescribed scale, might perform better in the future than the one that made a high grade on it.

A grade given to a student is nevertheless used as prediction that he will in the future do well, or do badly. A grade is a permanent label. A grade opens doors; it closes doors. How may a teacher know how someone will do in the future? If a student seems to lag behind other members of the class, it may be the fault of the teaching. He may excel all the others in some attribute not tested.

How does a student get a good grade? By feeding back to the teacher the same marbles that the teacher gave out to the class (so stated by Dr. Edward Rothman, 1990).

Grading in school is an attempt to achieve quality by inspection (William J. Latzko).

The evils of grading are intensified by forced ranking, only so many in Grade A permitted (see the next heading).

Because of such folly, I do not give grades to my students.

They all pass. I read the papers that my students turn in, not to grade them, but:

> To learn how I as a teacher am doing. In what ways am I failing? How can I improve my teaching?
>
> To discover whether any student is in need of special help, and to see that he gets it.
>
> To discover whether any student is extra well prepared and could receive benefit from extra work. For one such student I suggested the study of the theory of extreme values. She was fascinated with the study. So was I.

Students may take their time; do not rush a paper to me. Some of the best papers have come to me a year late. Meanwhile, the student has his grade, P for Pass.

Ranking and grading produce artificial scarcity.[5] If two people play tennis, one wins, one loses. The same for poker, swimming match, high jump, horse race. The human race has enjoyed games for centuries. The Greeks had their Olympic games and so do we. There is no harm in a game, and no sin in winning a game, so far as I know.

There is scarcity of winners in a game. Only one player can come out on top. The human race has somehow, for reasons unknown, carried the pattern of games into grades in school and on up through the university, gold stars for school athletics, the merit system (putting people into slots), ranking groups and divisions within the company.

[5] Alfie Kohn, *No Contest* (Houghton Mifflin, 1986).

All these practices induce competition between people.

Grading and ranking produce artificial scarcity of top grades. Only a few students are admitted to the top grades (see table below). Only a few people on the job are admitted to top rank.

This is wrong. There is no scarcity of good pupils. There is no scarcity of good people. There is no reason why everyone in a class should not be in the top grade, nor at the bottom, nor anywhere else. Moreover, a grade is only the teacher's subjective opinion. This is so even for the result of an examination.

What is the effect of grading and ranking? Answer: humiliation of those that do not receive top grades or top rank. The effect of humiliation is demoralization of the individual. Even he that receives top grades or top rank is demoralized.

I may cite as a horrible example a recommendation of the Department of Statistics in the Stern School of Business of New York University, dated October 1991:

Grade	Percentage
A	20
B	30
C	30
D	20
Total	100

Of all people that should know better, it should be teachers of statistics, and certainly in a school of business. They should teach why forced ranking is wrong.

Theory of a system, win, win, needed in education. Our children go to school, learn history, something about the English language. They do not learn that the word *man* has two meanings, the masculine gender, a man, and the neuter man, mankind, as in chairman, spokesman, tradesman, salesman. They learn something about geography (not as a study in economics, but cluttered with information such as the names of the capital cities of the 50 states). Geography if taught as economics, history, sociology, anthropology could be interesting and could impart knowledge (not mere information). For example, Minneapolis is in place because it is head of navigation. Likewise for Washington, and for Albany and Schenectady. Halifax, Quebec, Montreal, and Winnipeg are in place for good reasons, not by accident.

Also missing in school is the teaching of civic responsibilities in the form of a system for win, win. Instead, students come through school with the thought that everything is competition, that there must be winners, there must be losers. One must strive to be a winner; that anyone should vote for the candidate that promises the most for the voter's hometown, not understanding that this course will lead to win, lose; that everyone will lose.

Some examples of effects of grading, gold stars, prizes.

1. Letter from a woman that attended my four-day seminar:

You spoke of the damage that we do to our children by grading them and fostering competition. I remember my son in first grade, now a freshman at Florida State University. He attended a small private school in New Orleans. The school had an annual science fair. Students in grades six and above were required to enter a project; students in the lower grades could enter if they chose to. My son decided in the first grade to enter a project. He planned and worked on it all by himself. He took it to school the morning of the fair. He was proud of his accomplishment, and excited about seeing his project on display. We went to the school that night to see it. Some projects had prize ribbons pinned on them. His did not. Some projects had won, and his had lost. He never entered another science project until required to do so in the sixth grade.

2. A letter from two of my students, written in cooperation:

Alfie Kohn, in his book, *No Contest: The Case Against Competition,* challenges the assumption that competition is necessary, productive, beneficial. He disputes four widely held myths regarding competition:

1. That it is an inevitable part of human nature
2. That it is more productive than cooperation in promoting success

3. That competition is more enjoyable
4. That it builds character

He then goes on to assert and defend the converse of each of these myths.

The aim of a class in gymnasium should be physical benefit to everybody. Instead, gym classes were typically spent playing a competitive game. The child that did not display athletic ability received no benefit from gymnasium. For example, in softball, the nonathletic child would be placed in right field, where the ball would seldom be hit; in basketball, she would sit on the bench till her team had a substantial lead, and be sent in when she could not jeopardize victory. Thus, from a very early age, once the child is labeled nonathletic, there is little opportunity for benefit from gym classes.

Even the method for forming teams involved a contest, winners and losers. The gym teacher would select captains, who would then choose their teams. The captains selected the best players first, and then with consultation of these players, selected the next level of players. The last to be picked would endure the humiliating experience of being judged by their peers as inferior.

In the classroom, we had a chance to shine. However, others did not. Students were early labeled winners and losers. This stifled natural

motivation and joy of learning. The classroom version of the benchwarmer was afraid to raise his hand for fear of giving the wrong answer and being laughed at. Emphasis on being right discourages students from trying, and also teaches an inaccurate lesson, as few things in life are clearly right or wrong.

All the qualities that have been traditionally and erroneously applied to competition actually apply better to cooperation. Cooperation builds character, is basic to human nature, and makes learning more enjoyable and productive.

Working as part of a team develops ability to listen to other people's ideas and recognize their skills. In two of our classes this semester, we have written many of our papers together. We not only produced better work by bringing our different ideas and talents together, but we also learned from each other and enjoyed the working and learning process more than in our individual projects.

Some of our best and worst experiences at this school of business [New York University] have been our group projects. The best groups work cooperatively with each other, and bring forth an enjoyable experience, a good product, and lasting friendships. The ineffective groups are those that have intragroup competition.

To a great extent, our classes at this school of business [N.Y.U.] have focused on grades to the exclusion of enjoyable learning. Your class has allowed us to question and explore creative ideas and theories in an atmosphere that is devoid of competition, is thus relaxed and conducive to learning. We thank you.

3. Another letter. Fear followed by victory.

My daughter carried back and forth for a month Deming's paper "On Probability as a Basis for Action" (*The American Statistician*, vol. 29, no. 4, 1975, pp. 146–152), afraid to hand it to her teacher of statistics. She finally grew brave enough to hand it to him. He explained to the students at the end of the semester that what he had taught them was no use. They must understand that inference from data is prediction; that there is no assignable probability to being right or wrong in the prediction, that standard errors and tests of significance do not address the problem.

4. Don't beat your children for low grades. The *Washington Post* for 16 November 1990 told us that 110,000 children in Baltimore carried home with their report cards a printed plea from the School Board to parents not to abuse their children for low grades.

Baltimore officials said that they have no statistics on report-card violence. But Peggy Mainor, a

child-abuse prosecutor and member of the city's advisory Commission for Children and Youth, said the increase in abuse cases reported immediately after grades are issued has been "enough to catch our notice."

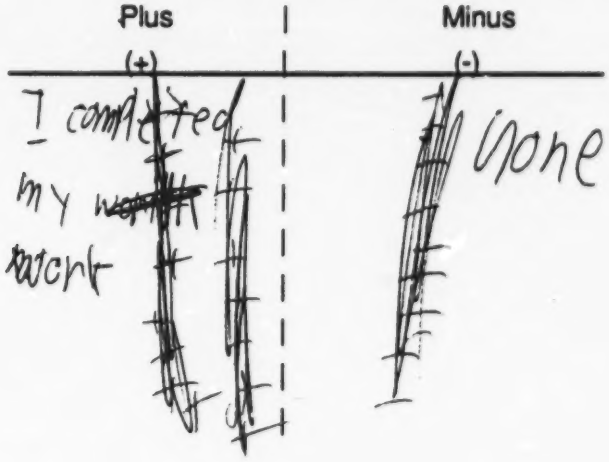
Quality Evaluation Survey

1) Do you feel that participating in small groups contributed to your learning? Yes/No.
(b) Why or Why not? It's better than a regular class

2) What went well in yesterday's class? I woke up

3) What did not go well? I couldn't watch the game

4) Please make a list of plus and minuses concerning any aspect of yesterday's class.



BEST COPY AVAILABLE

Quality Evaluation Survey

1) Do you feel that participating in small groups contributed to your learning? Yes (No.)

(b) Why or Why not?
Because we tend to talk about other ~~stu~~ subjects with our friends instead of what we are suppose to be doing.

2) What went well in yesterday's class?
I guess, actually nothing.

3) What did not go well?
The groups did not pay attention to other groups while they were teaching. The students basically read out of the book to teach us. They did not go ~~no~~ further ~~than~~ than the information in the book.

4) Please make a list of plus and minuses concerning any aspect of yesterday's class.

Plus (+)	Minus (-)
1.) Gives the students an opportunity to express themselves and show the class their teaching talents.	1.) The students do not teach as well as the teacher.
2.) Creates the students to become less stage fright.	2) They ~~did not give~~ did not give us new information besides what's in the text. When the teacher teaches, he seems to ~~go to~~ teach the information in the book and what going on in the world now, most students do not know what's going on in the world right now and they cannot teach us it. Besides, it gets boring listening to the students teach while the class is doing something else.
3.) Gives the students a experience.	3) When a class is not structured, students tend to take advantage of it. I have to admit that I take advantage of it also.

BEST COPY AVAILABLE

Quality Evaluation Survey

1) Do you feel that participating in small groups contributed to your learning? Yes/No.
(b) Why or Why not?

2) What went well in yesterday's class?

3) What did not go well?
Reading world history

4) Please make a list of plus and minuses concerning any aspect of yesterday's class.

Plus (+)	Minus (-)
absence	

Quality Evaluation Survey

1) Do you feel that participating in small groups contributed to your learning? Yes/No.
(b) Why or Why not? Because we still did individual work.

2) What went well in yesterday's class? we put together a good lesson & oral presentation of our assigned section.

3) What did not go well? It was too short

4) Please make a list of plus and minuses concerning any aspect of yesterday's class.

Plus (+)	Minus (-)
we worked in a group technically	But we didn't really work together.
we learned to work with others	we didn't really get along
we put together a lesson	But we worked on our own & didn't talk to each other
we learned about the section we did	But not enough of what others did.
	People were too busy complaining & arguing which made assignment difficult.

Quality Evaluation Survey

1) Do you feel that participating in small groups contributed to your learning? Yes/No.

(b) Why or Why not? YES because you are forced to learn

2) What went well in yesterday's class?

Presentation of sections

3) What did not go well? making them interesting ~~that~~ so others will listen

4) Please make a list of plus and minuses concerning any aspect of yesterday's class.

Plus (+)	Minus (-)
learned your section well organization of information	listening making them interesting

APPENDIX F

Alternate Assessment Systems

(N.B. The following descriptions were written by the participating teachers and their respective students)

Assessment A: 1. The entire class felt that the greatest challenge facing them were communication skills.

2. Assessment of class needs were determined by the class using listening activities created by classroom groups. Daily check lists were used to assess daily participation.

3. Final Assessment by Teacher - Observation checklists was provided by classroom groups and calculated into one final assessment. This assignment was used by each student in assessing each participant.

Assessment B: The assessment system that the class decided on was that we would discuss each unit as a group and concentrate on the major ideas of each section. We would include current events and personal

experiences that related to each individual topic. We discussed test questions that each person in the group came up with. Everyone in the program went along with these ideas. The short period of time made this difficult, but we were able to accomplish our goals.

Assessment C: The class was assessed on how they followed instructions and carried them out; did they complete the assignment; did they participate in an appropriate manner; attendance. These assessment elements are based on two principles jointly agreed on by the class. The first being that doing the work was their choice, and the choice to do the assignments currently was their responsibility. To accomplish all of this, the student was told to pay attention (listening skills were discussed at the beginning of the year) and to take notes (getting instructions). Although the students did not create the assessment system, they were given numerous opportunities to discuss the relevance of the assessment tool. They were asked at different times in the marking period to

"critically" assess their work verbally as well as in written assignments.

Assessment D: The class unanimously voted to adhere to the traditional testing instrument consisting of chapter tests and quizzes. The only variation in total and absolute adherence to traditional assessments occurred at the end of the marking period when the students asserted that an "effort grade" should be averaged into the class grade. This "effort grade" was self-determined and could not be altered by the teacher. This was agreed to by the teacher. Interestingly, all the "effort grades" given by the students were reasonable, and certainly close to the grades this researcher would have assigned had this writer been responsible for assessing effort.

APPENDIX G

Description of Student PDSA Proposals

(N.B. The following descriptions were written by the teachers participating in practicum implementation.)

Class 1: Students were asked to give the teachers three or four items that they wanted to hear. Grammar was the topic most frequently given and reading was second. The first semester will be spent on grammar and the second semester will focus on reading literature. At several intervals the students were asked to assess their progress and how improvements would be made (class discussions and writing assignments). The class covered parts of speech; subject and verb; and finally complements. We are presently working on clauses and phrases. At the end of the first ten weeks, they wrote a self-evaluation.

Class 2: The students were asked to give three examples of topics they wished to discuss in economics. The students and I decided on Demand, Supply, and Current Events in all economic areas. Notes were provided and

also reading materials. Each topic was discussed in a slow methodical way. Everyone had input. We listened to everyone. We payed special attention to vocabulary because of its importance in economics' discussions. We used our assessment procedure and came out with good results.

Class 3: Students participating in this implementation were taught the PDSA Deming Cycle. Each student was encouraged to target either poor test performance or poor time management skills. Students were grouped into one of the above categories, and collaborated on a PDSA. Students unanimously felt as though they had improved in the targeted process. This was ascertained by taking a survey in class at the end of practicum implementation.

Class 4: [The description generated by this teacher and her class follows on the next two pages].

Check your daily habits

HOME	SCHOOL	FRIENDS

Do I concentrate on what is being said?

Do I look at the speaker?

Do I listen for at least one new idea when I am being spoken to or in a conversation:

Do I pay attention so a I can pick up new words and phrases.

Am I affected by the speaker's tone of voice?

Do I interpret what is being said by watching body language

Do I ask questions when I hear something I don't understand?

Do I pay attention the first time when I hear directions?

Do I free my mind and body to allow myself to think about what I have heard?

Do things I hear remain with me for a long period of time?

Do I really aattempt to listen attentively?

Identifying listening needs

1. I need to be prepared for class so I can listen effectively.
   a. I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
2. I need to change my seat based on the subject maatter of my classes and the degree of content
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
3. I need to contrate on paying attention in a course I do not like.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
4. I need to concentrate in class even when I don't like the teacher.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
5. I need to learn how to listen for main ideas
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
6. I need to learn how to listen for main ideas
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
7. I need to maintain eye contact with the teacher.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
8. I need to learn how to separate facts from opinions.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
9. I need to ask questions for assistance when I don't understand something.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.
10. I need to spend time reviewing and studying with my peers to give me support.
   a I can do this
   b. I could use some help in preparing
   c. I do not know how to prepare.

APPENDIX H

Teacher Perceptions As to the Extent of Usefulness (in %) of Selected Methods in the Development of Increased Levels of Student Self Motivation (N=4)

yes (100%)	no (0%)	1. Students and teachers joint development of an assessment system.
yes (100%)	no (0%)	2. Students' ability to develop and alter prescribed curriculum.
yes (100%)	no (0%)	3. Students' adoption of a mastery learning model.
yes (75%)	no (25%)	4. Students' ability to give teachers feedback in the form of quality education surveys .

yes (75%)	no (25%)	5. Students' development of PDSA
yes (75%)	no (25%)	6. Students' development of an action to improve some process of personal significance.
yes (50%)	no (50%)	7. Students' ability to continue making curricular related decisions in weeks eight through twelve of the implementation process.
yes (50%)	no (50%)	8. Students' ability to continue filling out quality education surveys and undergo PDSA analysis in the final four weeks of practicum implementation.

APPENDIX I

Student Perceptions as to the Effectiveness of Teacher Actions in Stimulating Higher Levels of Student Self Motivation (N = 115)

Using the scale below, please indicate your reaction to each of the following:

1) Teachers should allow students to help make decisions about curricular decisions.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

(100 %)

2) Teachers should allow students to submit work in late without a grade penalty.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

(100%)

3) Teachers should listen to students.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

(100%)

4) Teachers should be nice to students.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

(100%)

5) Teachers should take time to explain to students that they are of integral importance in deciding important issues related to the educational process.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion

(100%)

6) Teachers should try to understand the underlying root causes of student disruptions.

5	4	3	2	1
Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
	(62%)	(33%)	(10%)	(5%)

APPENDIX J

Internal Suspension and External Suspension Rates of the Target Group Before and After Program Intervention (N=115)

	Internal Suspension	External Suspension
Before Intervention	12 students (10.5 %)	4 students (3.44 %)
After Intervention	5 students (4 %)	1 student (1 %)
Net Change	7 students or 58.3 % improvement	3 students or 75 % improvement

APPENDIX K

Student Questionnaire Results
(N = 115)

Average Score On
10 question survey

Before Intervention	(21.3 out of 50)
After Intervention	(32.2 out of 50)
Net Improvement	(A net increase of 10.9 points) 51 %